

## IV. Defining Future Mobility Conditions

### 4.1 Travel Demand Forecasting

The City of Houston and the Houston-Galveston Area Council (H-GAC), through an inter-local agreement, conducted the travel demand forecasting within the Study Area. The Travel Demand Model (the model) is a useful tool for comparing alternative transportation scenarios. The model assists in understanding the manner in which future population and employment will cause traffic to grow. The intent is to better understand the dynamics of a complex network of streets and to test what-if scenarios of different transportation solutions.

The City, H-GAC, and the project team worked together to update the 2035 demographic forecasts. The updates included existing building permits, development trends, and traffic studies.

#### Forecast Results - The Scenarios

The study team created four initial scenarios for the Northwest sub-area. These scenarios were designed to test big ideas from local stakeholders, professional staff, and the consultant team. The different scenarios include:

- Scenario 1 (Base Build-Out)
- Scenario 2 (Couplets)
- Scenario 3 (Capacity Projects)
- Scenario 4 (High Frequency Transit)
- Scenario 5 (Recommendations)

The scenarios were analyzed individually to allow for a comparison between different concepts. Ultimately, a combined scenario (Scenario 5) represents final recommendations the project team feels are realistic for implementation. The provided descriptions below demonstrate what modifications were made within each Scenario.

To view final 2035 projection numbers associated with each Scenario, see [Appendix E: Travel Demand Model Results](#).

#### Scenario 1 (Base Build-Out)

The Base Model scenario assumes the full development of all Major Thoroughfares and Major Collectors as identified in the 2013 MTFP. The effects of such recommendations on traffic volumes and congestion levels were evaluated in this scenario. The map of this scenario is found in [Figure 4.1](#).

#### Scenario 2 (Couplets)

This scenario was created specifically for the Heights-Northside Sub-regional Study, which was done in conjunction with this study. It is included in this Report for reference purposes only. The map of this scenario is shown in [Figure 4.2](#).

#### Scenario 3 (Capacity Projects)

Scenario 3 combines road expansion (as designated by the MTFP) and street reduction projects. The intent was to create a network that safely and reasonably supported a variety of mobility uses. This model is a more financially feasible option than the Base Model Scenario. The map of this scenario is found in [Figure 4.3](#).

### Scenario 4 (High Frequency Transit)

Scenario 4: This high frequency transit scenario included transit routes which factored in public input, population growth, job growth, activity centers, and connectivity to other destinations (such as downtown or the Galleria). The increase in service was modeled by doubling the service frequency during the peak hours. Non-peak hour headways were also increased slightly. Ultimately, however, METRO is responsible for the frequency and stop locations of all City bus routes. The map of this scenario is found in [Figure 4.4](#).

### Scenario 5 (Recommendations)

These four scenarios were analyzed separately and compared to the 2035 Base Model as provided by H-GAC (with the new 2035 demographics previously discussed). Scenario results were then taken to stakeholders for feedback. The provided input and the project team's analysis were combined to create Scenario 5. The result is a network of corridors that acknowledges the need for the expansion as well as the reduction of certain corridors (Scenario 3), increased High Frequency Transit Options (Scenario 4), and the completion of key east-west and north-south corridors as depicted on the Major Thoroughfare and Freeway Plan (Scenario 1). The map is found in [Figure 4.5](#).

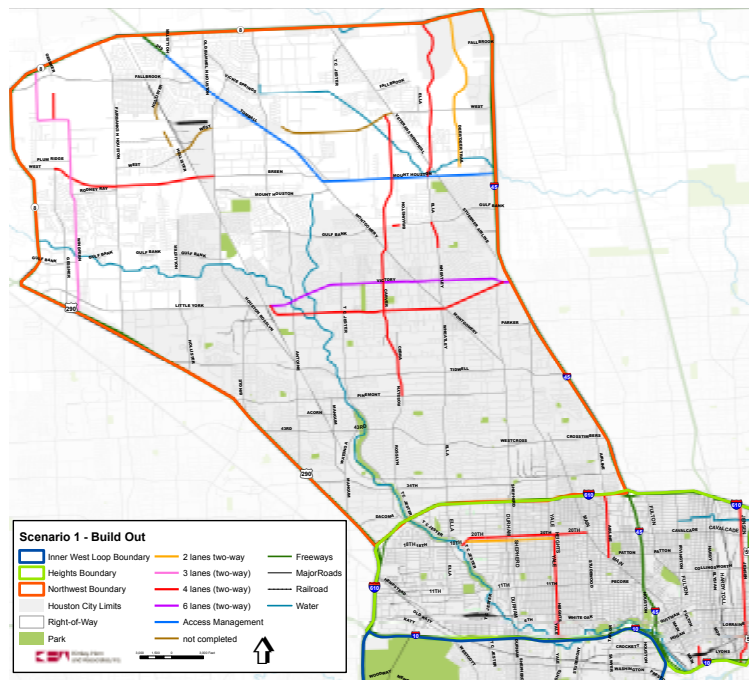


FIGURE 4.1 SCENARIO 1: BASE BUILD-OUT

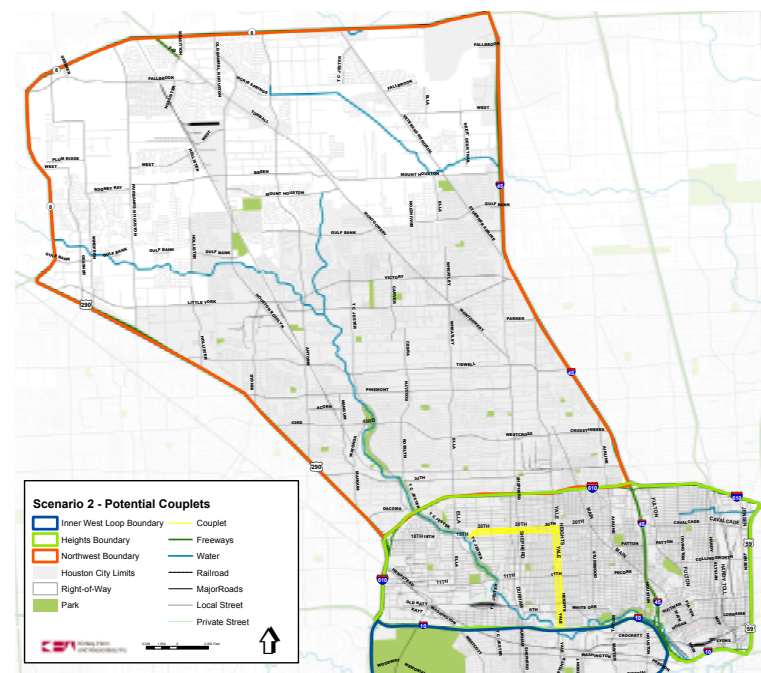


FIGURE 4.2 SCENARIO 2: COUPLETS

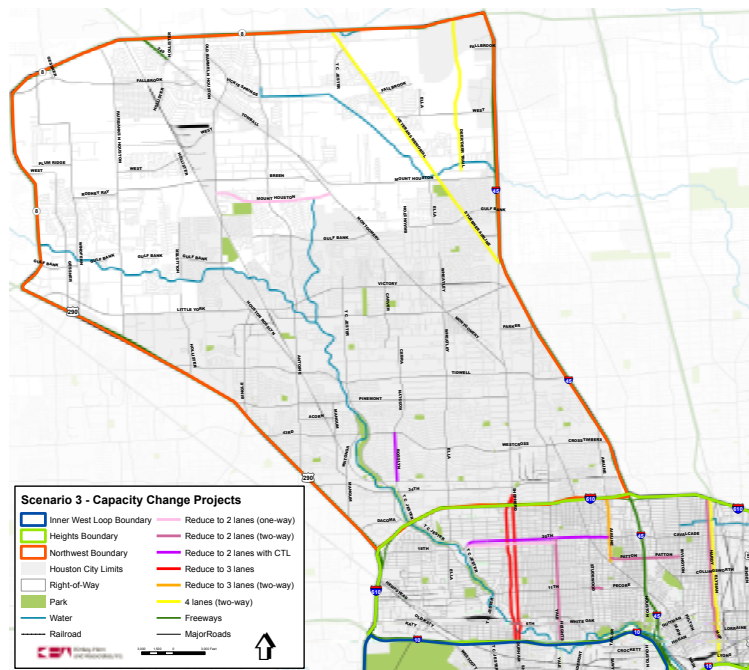


FIGURE 4.3 SCENARIO 3: CAPACITY PROJECTS

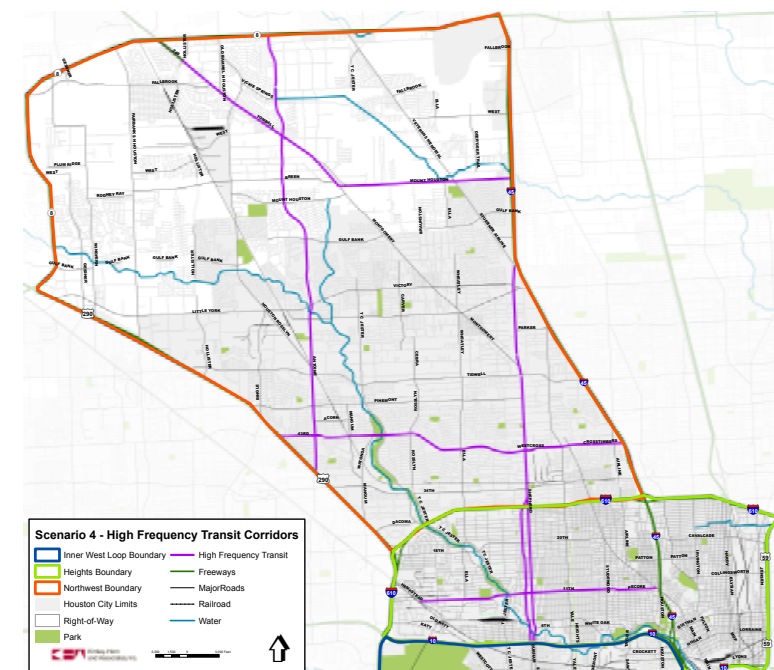


FIGURE 4.4 SCENARIO 4: HIGH FREQUENCY TRANSIT

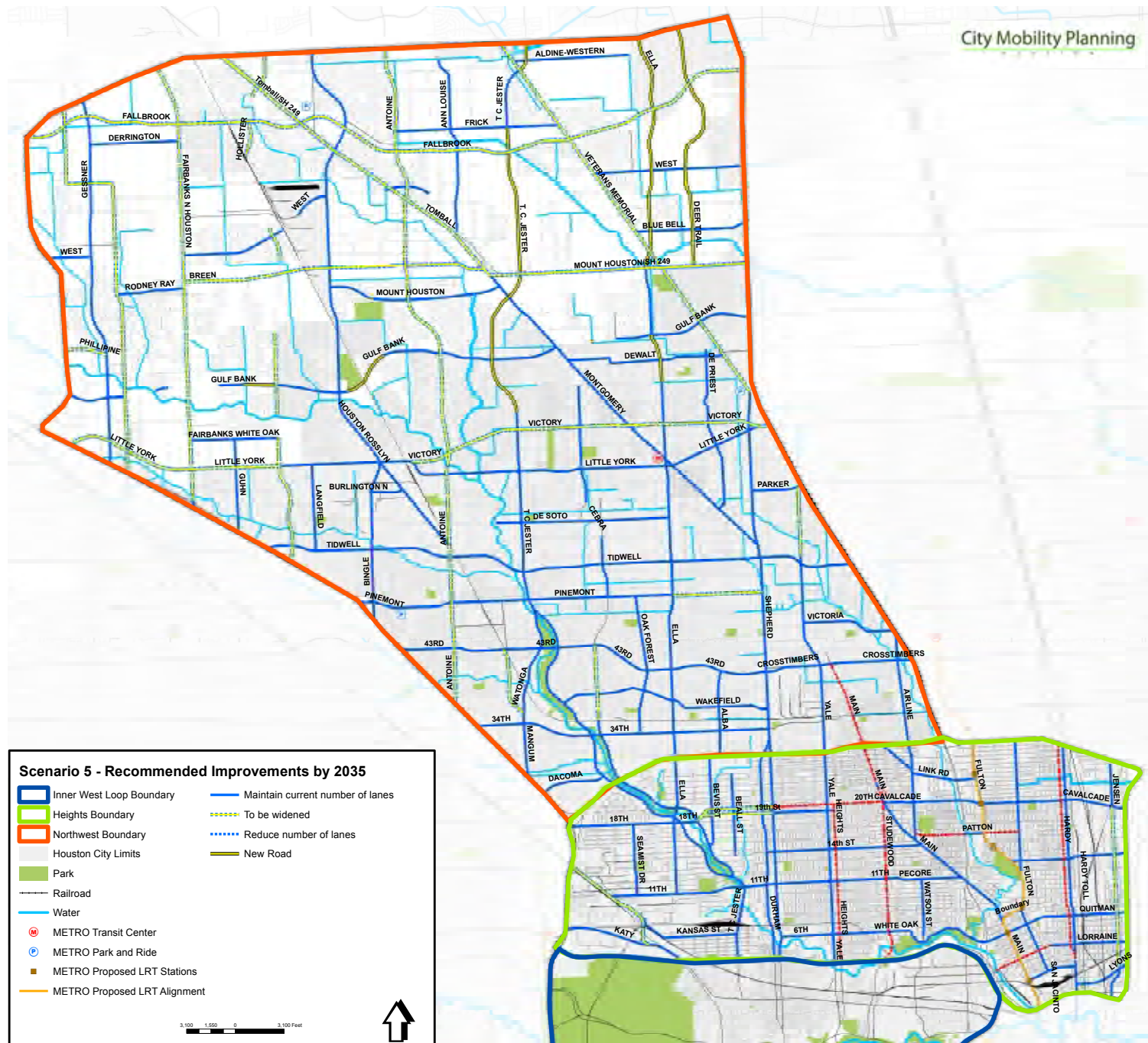


FIGURE 4.5 SCENARIO 5: RECOMMENDATIONS

**This Page Intentionally Left Blank**